CLAIMS

What is claimed is:

1   1.   A method for building and displaying interactive, control and non-interactive

2   information, selectively, on a touch panel comprising the steps of:

3   constructing a page for display on the touch panel;

4   configuring a plurality of graphical display units in association with said page for

5   display on the touch panel;

6   displaying the page and one or more of said graphical display units, selectively, on

7   said touch panel; and

8   determining whether any of said graphical display units is activated by a touch

9   message comprising an amount of pressure applied to a location on said touch panel.

1   2.   The method of Claim 1 wherein:

2   each of said graphical display units is configured to have a total touch area on the

3   touch panel comprising, collectively, an active touch area and a non-active area, the active

4   touch area of a first graphical display unit overlapping a non-active area of a second

5   graphical display unit; and

6   said determining step comprises determining whether said touch message location is

7   within the active touch area of any graphical display unit being displayed on said touch

8   panel.

1　　　3.　　The method of Claim 2, wherein said determining step comprises:

2　　　　　mathematically plotting a line between said touch message location and the perimeter

3　of the total touch area of a particular graphical display unit; and

4　　　　　analyzing each point along the plotted line to determine whether the touch message

5　location coincides with any portion of the active touch area of the particular graphical display

6　unit.

1　　　4.　　The method of Claim 2 wherein said determining step comprises:

2　　　　　determining the position of said touch message location on said touch screen;

3　　　　　identifying each of the graphical display units having a portion of its total touch area

4　that coincides with said touch message location;

5　　　　　for each of said identified graphical display units, mathematically plotting a line

6　between the touch message location and the perimeter of the corresponding total touch area;

7　　　　　forming an analysis order for said identified graphical display units;

8　　　　　analyzing each point along each line associated with each identified graphical display

9　unit to determine if the said touch message location coincides with at least a portion of the

10　active touch area of one of said identified graphical display units; and

11　　　　　activating a particular graphical display unit when the touch message location is

12　found to coincide with at least a portion of the active touch area of said particular graphical

13　display unit.

1　　　5.　　The method of Claim 4 wherein:

2　　　　　two of said graphical display units are displayed on said touch panel so that

3　their respective active touch areas are separated from each other by no more than one pixel.

1   6.   The method of Claim 1, wherein:

2   each of said graphical display units is selectively provided with one or more features

3   from a group of features that includes a bitmap, an icon, text and a border.

1   7.   The method of Claim 6, wherein:

2   said graphical display units, including features thereof, are respectively provided with

3   one or more colors.

1   8.   The method of Claim 6, wherein:

2   one or more of said graphical display units each has two or more states.

1   9.   The method of Claim 8, wherein:

2   said configuring step comprises building the state of one or more of said graphical

3   display units.

1   10.   The method of Claim 6, wherein:

2   at least one of said graphical display units comprises a bargraph having at least two

3   states.

1   11.   The method of Claim 6, wherein:

2   said text feature includes a font selected from a set of fonts, and a text effect selected

3   from a set of text effects.

4   12.   The method of Claim 1, wherein:

5   said method includes the step of configuring one or more sub-pages in association

6   with said page, at least one of said sub-pages comprising a video feed.

1   13.   A method for building and displaying interactive, control, non-interactive and

2   non-control information, selectively, on a touch panel, said method comprising the steps of:

3   selecting a page having two or more states for display on the touch panel;

4   directing a state of the selected page to random access memory;

5   constructing a graphical display unit for use with the selected page;

6   storing said constructed graphical display unit in a graphical display unit cache;

7   setting the opacity of said graphical display unit;

8   storing the graphical display unit in random access memory;

9   configuring a sub-page associated with the selected page;

10   storing said sub-page in a sub-page cache;

11   storing said sub-page in random access memory;

12   copying the state of the selected page, the graphical display unit and the sub-page

13   from random access memory to video random access memory;

14   displaying the state of the page from video random access memory onto the touch

15   panel; and

16   displaying said graphical display unit and said sub-page from video random access

17   memory onto the selected page on the touch panel.

1   14.   The method of Claim 13, wherein:

2   said graphical display unit has one or more colors.

1   15.   The method of Claim 13, wherein:

2   said graphical display unit is selectively provided with one or more features from a

3   group of features that includes text and one or more bitmaps, icons and borders.

1   16.   The method of Claim 13, wherein:

2   said graphical display unit is a repeating graphical display unit.

1   17.   The method of Claim 13, wherein:

2   said graphical display unit has two or more states, and said method includes

3   determining the state of said graphical display unit.

1   18.   A method for animating a graphical display unit comprising the steps of:

2   setting a max state and a min state for the graphical display unit, the graphical display

3   unit having two or more states;

4   determining each state that exists between the max state and the min state;

5   receiving a command to activate the graphical display unit;

6   upon receipt of the command to activate the graphical display unit in connection with

7   a specified state, setting the state of the graphical display unit to the min state;

8   sequentially displaying each state between the min state and the max state until the

9   max state is the state of the graphical display unit; and

10   upon achieving the max state of the graphical display unit, resetting the state of the

11   graphical display unit to the min state, and then sequentially displaying each state between

12   the min state and the max state until the specified state is the state of the graphical display

13   unit.

1   19.   The method of claim 18, wherein;

2   said step of sequentially displaying each state further comprises the step of retrieving

3   each state between the min state and the max state from a graphical display unit cache.

1   20.   The method of Claim 19, wherein:

2   said step of sequentially displaying each state further comprises the step of building

3   each state between the min state and the max state that has not been previously built and

4   stored in the graphical display unit cache.

1   21.   A computer system for building and displaying interactive, control and non-

2   interactive information, selectively, on a touch panel, said system comprising:

3   a processor; and

4   a computer readable medium connected to the processor, said computer readable

5   medium including processor instructions configured to be read by said processor and thereby

6   cause said processor to:

7   construct a page for display on the touch panel;

8   configure a plurality of graphical display units in association with said page for

9   display on the touch panel;

10   display the page and one or more of said graphical display units, selectively, on said

11   touch panel; and

12   determine whether any of said graphical display units is activated by a touch message

13   comprising an amount of pressure applied to a location on said touch panel.

1   22.   The system of Claim 21 wherein:

2   each of said graphical display units is configured to have a total touch area on the

3   touch panel comprising, collectively, an active touch area and a non-active area, the active

4   touch area of a first graphical display unit overlapping a non-active area of a second

5   graphical display unit; and

6   said processor determines whether said touch message location is within the active

7   touch area of any graphical display unit being displayed on said touch panel.

1   23.   The system of Claim 22, wherein said processor:

2   mathematically plots a line between said touch message location and the perimeter of

3   the total touch area of a particular graphical display unit; and

4   analyzes each point along the plotted line to determine whether the touch message

5   location coincides with any portion of the active touch area of the particular graphical display

6   unit.

1   24.   The system of Claim 22, wherein said processor:

2   determines the position of said touch message location on said touch screen;

3   identifies each of the graphical display units having a portion of its total touch area

4   that coincides with said touch message location;

5   for each of said identified graphical display units, mathematically plots a line between

6   the touch message location and the perimeter of the corresponding total touch area;

7   forms an analysis order for said identified graphical display units;

8   analyzes each point along each line associated with each identified graphical display

9   unit to determine if the said touch message location coincides with at least a portion of the

10   active touch area of one of said identified graphical display units; and

11   activates a particular graphical display unit when the touch message location is found

12   to coincide with at least a portion of the active touch area of said particular graphical display

13   unit.

14   25.   The system of Claim 24, wherein said processor :

15   two of said graphical display units are displayed on said touch panel so that

16   their respective active touch areas are separated from each other by no more than one pixel.

1   26.   The system of Claim 21, wherein :

2   each of said graphical display units is selectively provided with one or more features

3   from a group of features that includes a bitmap, an icon, text and a border.

1   27.   The system of Claim 26, wherein:

2   said graphical display units, including features thereof, are respectively provided with

3   one or more colors.

1   28.   The system of Claim 26, wherein:

2   one or more of said graphical display units each has two or more states.

1   29.   The system of Claim 28, wherein :

2   said processor builds the state of one or more of said graphical display units.

1   30.   The system of Claim 26, wherein:

2   at least one of said graphical display units comprises a bargraph having at least two

3   states.

1   31.   The system of Claim 26, wherein:

2   said text feature includes a font selected from a set of fonts, and a text effect selected

3   from a set of text effects.

1   32.   The system of Claim 21, wherein:

2   said processor configures one or more sub-pages in association with said page, at

3   least one of said sub-pages comprising a video feed.